

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/007901

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 20-25 (partial)

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 20-25 (partial)
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
- ☐ See separate sheet for further details

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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☒ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☒ all parts.
 - ☐ the parts relating to claims Nos.

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-6, 8-25
	No: Claims	7, 22-24
Inventive step (IS)	Yes: Claims	1-6, 8-21, 25
	No: Claims	7, 22-24
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	

2. Citations and explanations

see separate sheet

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Box No. VI Certain documents cited

1. Certain published documents (Rules 43*bis*.1 and 70.10)
and /or
2. Non-written disclosures (Rules 43*bis*.1 and 70.9)
see form 210

Re Item IV.

The separate inventions are:

Invention 1: claims 1-19 (complete), claims 20-25 (partial)

Dry or liquid compositions based on the association between isomaltulose as the key ingredient and selected carbohydrates, and additionally comprising a polyol, to be used as an energy supply which does not prevent fat oxidation in the body. Uses of isomaltulose in the preparation of products having various physiological effects.

Invention 2: claims 20-25 (partial)

Uses of trehalose for the manufacture of various categories of products having physiological effects.

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reason: Since drinks -including sports drinks- containing isomaltulose are known, and since trehalose-containing drinks are also known, there is no common inventive link between drinks comprising one or the other of these two sugar compounds, which are to be considered as two independent alternatives.

Re Item V.

1 The following documents are referred to in this communication:

D1: EP-A-1 462 011 (CERESTAR HOLDING BV) 29 September 2004

D2: US-A-5 410 028 (ASAMI KUNIAKI ET AL) 25 April 1995

D3: KAWAI K ET AL: "Usefulness of palatinose as a coloric sweetener for diabetic patients" HORMONE AND METABOLIC RESEARCH, THIEME-STRATTON, STUTTGART, DE, vol. 21, no. 6, 24 February 1989, pages 338-340, XP002959842 ISSN: 0018-5043

D4: WO 01/39615 A1 (BRITISH SUGAR PLC; COOPER, JULIAN, MICHAEL; ACASTER, MICHAEL, ANDREW;) 7 June 2001

D5: "Trehalose-containing food or drink for improving mobility - comprises, e.g. trehalose in thick malt syrup and chewing gum base" DERWENT, 1997, XP002251971

D6: DE 197 32 351 A1 (HOECHST AG, 65929 FRANKFURT, DE) 4 February 1999

- D7: US-B1-6 620 791 (COOPER JULIAN MICHAEL ET AL) 16 September 2003
D8: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 13, 5 February 2001 & JP 2000 300212 A (MITSUI SUGAR CO LTD), 31 October 2000
D9: "Sports drink for supplying energy - contg. palatinose as principal saccharide" DERWENT, 7 March 1989, XP002251923
D10: "Special food and drink, used for diabetics - contg. palatinose as sweetener and/or filler and/or extender" DERWENT, 18 May 1988, XP002251924
D11: US-A-4 556 429 (IWAKURA TATSUYA ET AL) 3 December 1985
D12: "Drink, e.g., isotonic drinks, tea, soft drinks, lactic acid drinks, soybean drinks or carbonate drinks contains a flavor of flowers or herbs, or an extract of flowers or herbs, and palatinose" DERWENT, 6 March 2003 (2003-03-06), XP002258689

2 Novelty and inventive step

Invention 1 (based on isomaltulose)

2.1 Document D2 (example 3) discloses the semi-solid composition according to claim 7, which comprises palatinose, sorbitol as a polyol, and fructose. That document does not impact the other claims due to the very specific form of the composition disclosed therein, and is not relevant for inventive step as it is to be used in a totally different context.

2.2 Document D3 discloses beneficial effects linked to the administration of isomaltulose to diabetics. Since the application does not mention any unexpected effect linked to the further provision of a further sweetener as required by claims 22-23, that document is considered to lead the skilled person to the invention according to claim 22. Furthermore, the additional feature brought by claim 23 relates to a mode of action of the composition, which is not a feature of the use itself. Thus, the same objection as for claim 22 is valid for claim 23 also. Both claims 22-23 are considered not to involve an inventive step in the sense of Art. 33 (3) PCT.

2.3 The subject-matter of all other claims is based on the concept that partial replacement of a caloric sweetener such as sucrose by isomaltulose provides an advantage in terms of osmolarity (p.11 of the description). This is not disclosed nor suggested by any of the prior art documents, thus the subject-matter of claims 1-6, 8-21

and 24-25 is both novel and involves an inventive step (Art. 33 (2-3) PCT) over e.g., compositions such as D8 and D9, which use isomaltulose only.

Invention 2 (based on trehalose)

2.4 Document D4 (example 1, p.3 li.11-19, p.5 li.11-14) discloses that sports drinks comprising trehalose and other sweeteners provides sustained energy. Thus, regardless of the biochemical mechanism involved, that document takes away the novelty of claims 22-23. Same can be said from document D5.

2.5 Document D6 (see example 2) discloses a drink yoghurt which comprises trehalose and intense sweeteners, which obviously can not do anything else than modifying the perception of hunger and satiety! Same could in fact also be said from the foods of D4 and D5. Thus, the subject-matter of claim 24 also is not new (Art. 33 (2) PCT).

Re Item VI

Certain documents cited

Although not being comprised in the relevant prior art for the purposes of Art. 33 (2) and (3) PCT (R. 64.1 and 64.3 PCT), document **D1** is cited (R. 70.10 PCT) as **it might become relevant for the novelty of claims 22-24 (inventions 1 and 2) in later regional phases**. Similarly, D7 is cited because it might later impact the novelty of claim 24 if its priority were found not to be valid (invention 2 only).